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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/747,919

12/29/2003

Sriram R. Vangal

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04/22/2008

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EXAMINER

VU, VIET DUY

ART UNIT

PAPER NUMBER

2154

MAIL DATE

DELIVERY MODE

04/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/747,919	Applicant(s) VANGAL ET AL.	
	Examiner Viet Vu	Art Unit 2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-22 and 34-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-22, 34-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/08</u> . | 6) <input type="checkbox"/> Other: _____ |

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Art Rejections:

1. The texts of 35 U.S.C. 103(a) cited in the previous office action are hereby incorporated by reference.

2. Claims 1-4, 11-14, 16-22 and 34-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boucher, U.S. pat. No. 6,965,941.

Per claim 1 and 3-4, Boucher discloses a network processor system comprising:

- a) a network interface and a host interface to receive a packet (see col 27, lines 24-30);
- b) a cache to store context data for the packet for multiple connections (col 23, lines 31-49);
- c) an offload engine to process the packet using context data in the cache (col 14, lines 62-67); and
- d) a DMA controller connected to the offload engine, the DMA controller adapted to transfer data from host memory to a transfer queue (col 14, line 65 - col 15, line 6) and to store data from a header and data queue into host memory (see col 28, lines 8-12 and col 29, lines 58-67).

Boucher does not explicitly teach that the DMA controller operates in parallel with the offload engine. Boucher however

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clearly teaches that the offload engine comprises multiple pipelined processors for processing plurality data transmitting and receiving operations in parallel (see col 18, lines 44-65) and that DMA controller comprises different DMA control units for processing different data sequences (see col 30, lines 44-54).

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to recognize that at least one or more DMA controller units would have operated in parallel with at least one or more pipelined processor of the offload engine.

Per claims 2 and 13, Boucher teaches using working registers to store context data (see col 23, lines 31-33).

Per claims 11-12, Boucher teaches using a hash table to lookup data in the cache (see col 14, lines 22-35).

Per claims 14 and 16-23, Boucher teachings encompass all claim limitations.

Claims 34-39 are rejected for the same rationale set forth above for claims 1-9, 11-14 and 16-22.

3. Claims 5-9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boucher, and further in view of Kagan, U.S. pat. No. 7,152,122.

Per claims 5, 8-9 and 15, Boucher does not explicitly teach a doorbell queue, completion queue and an address translator. The use of doorbell queue, completion queue and address translator is known in the art as disclosed by Kagan (see Kagan in col 8, lines 52-65; col 9, lines 26-31 and col 10, lines 1-9). It would have been obvious to one skilled in the art to utilize such queues and address translator in Boucher because it would have enabled proper operation of the network processing unit.

Per claim 6, Boucher does not explicitly show a timer and an exception/event queue. The use of timer and exception/event queue in network processor for handling exceptions is also well-known in the art.

Per claim 7, Boucher also teaches using a priority mechanism for transmitting the packets (see col 5, lines 11-16).

Response to Amendment:

4. Applicant's arguments filed on February 11, 2008 with respect to claims 1-9, 11-22, 34-39 are moot in view of new grounds of rejection set forth above.

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Conclusion:

5. Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viet Vu whose telephone number is 571-272-3977. The examiner can normally be reached on Monday through Friday from 7:00am to 4:00pm. The Group general information number is 571-272-2100. The Group fax number is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn, can be reached on 571-272-1915.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

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Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Viet Vu/

Primary Examiner, Art Unit 2154

4/14/08